# Mouse RGM-A Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF2458

## DESCRIPTION

| | |
|---|---|
| **Species Reactivity** | Mouse |
| **Specificity** | Detects mouse RGM-A in direct ELISAs and Western blots. In direct ELISAs, less than 15% cross-reactivity with recombinant human RGM-A and recombinant chicken RGM-A is observed and less than 1% cross-reactivity with recombinant mouse (rm) RGM-B and rmRGM-C is observed. |
| **Source** | Polyclonal Goat IgG |
| **Purification** | Antigen Affinity-purified |
| **Immunogen** | Mouse myeloma cell line NS0-derived recombinant mouse RGM-A<br>Cys48-Gly421<br>Accession # Q6PCX7 |
| **Formulation** | Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.<br>*Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS. |

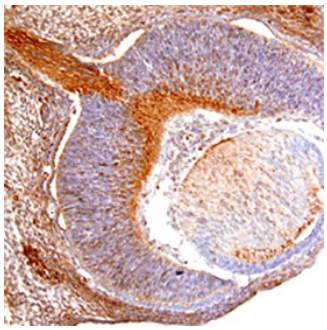
## APPLICATIONS

**Please Note:** *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

| | Recommended Concentration | Sample |
|---|---|---|
| **Western Blot** | 0.1 µg/mL | Recombinant Mouse Repulsive Guidance Molecule A/RGM-A (Catalog # 2458-RG) |
| **Immunohistochemistry** | 5-15 µg/mL | See Below |

## DATA

**Immunohistochemistry**



**RGM-A in Mouse Embryo.**
RGM-A was detected in immersion fixed frozen sections of mouse embryo (13 d.p.c) using Goat Anti-Mouse RGM-A Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2458) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific staining was localized to retina and developing neurons in cross-section of the developing eye. View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

## PREPARATION AND STORAGE

| | |
|---|---|
| **Reconstitution** | Reconstitute at 0.2 mg/mL in sterile PBS. |
| **Shipping** | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.<br>*Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C |
| **Stability & Storage** | **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**<br>● 12 months from date of receipt, -20 to -70 °C as supplied.<br>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.<br>● 6 months, -20 to -70 °C under sterile conditions after reconstitution. |



bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956

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## BACKGROUND

Mouse repulsive guidance molecule (RGM-A) is a 33 kDa GPI-linked member of an expanding RGM-related family of neuronal and muscle-expressed membrane proteins (1). It is synthesized as a 454 amino acid (aa) preproprotein that contains a 47 aa signal sequence, a 122 aa N-terminal prosegment, a 258 mature region and a 27 aa C-terminal prosegment (2, 3). The N-terminal prosegment contains an RGD tripeptide and the molecule's only two potential N-linked glycosylation sites. The mature segment shows an abbreviated von Willebrand factor domain. Proteolytic processing occurs at an aspartic acid-proline bond, creating a predicted 32 kDa mature region (2). The mature region of mouse RGM-A is 93% and 87% aa identical to human and chick mature region RGM-A, respectively. When compared to mouse RGMb and c, the mature region of mouse RGM-A shows 77% and 76% aa identity, respectively (2, 3). Recombinant chick RGM has been reported to induce collapse of temporal but not nasal growth cones, and to repel temporal retinal axons *in vitro*. This suggests a role in the development of the retina-superior colliculus connection. In mice, however, this activity is not so obvious, and thus its function in this system is uncertain (3). Alternatively, in mice, RGM-A is said to be needed for neural tube closure (3). And in a mouse culture system, chick RGM-A is reported to be responsible for the layered segmentation of of entorhinal cortical projections to the hippocampus (4). The receptor for RGM is reported to be neogenin (5, 6).

**References:**

1. Samad, T.A. *et al.* (2004) J. Neurosci. **24**:2027.
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3. Niederkofler V. *et al.* (2004) J. Neurosci. **24**:808.
4. Brinks, H. *et al.* (2004) J. Neurosci. **24**:3862.
5. Rajagopalan S. *et al.* (2004) Nat. Cell Biol. **6**:756.
6. Matsunaga E. *et al.* (2004) Nat. Cell Biol. **6**:749.



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Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
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Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956